WHAT IS CLAIMED IS:

1. A jitter detection apparatus, comprising:

an A/D conversion section for converting an input analog signal into a plurality of discrete multiple value digital signals;

a binarization section for performing binarization of the plurality of multiple value digital signals to generate a binary signal;

a jitter calculation section for calculating a jitter amount based on an error between a value of a prescribed multiple value digital signal sampled at a time which is substantially the same as a time when the value of the binary signal is changed and a prescribed threshold value;

a pattern detection section for detecting patterns of the binary signal before and after the time when the prescribed multiple value digital signal is sampled; and

a correction section for correcting the jitter amount based on the detected pattern.

2. A jitter detection apparatus according to claim 1, wherein the correction section corrects the jitter amount when the detected pattern includes a shortest pattern.

3. A jitter detection apparatus according to claim 2, wherein:

the input analog signal is modulated based on a run-length limited code having a shortest run-length of 2 clock cycles, and

the length of the shortest pattern is a length of 2 clock cycles.

4. A jitter detection apparatus, comprising:

an A/D conversion section for converting an input analog signal into a plurality of discrete multiple value digital signals;

a binarization section for performing binarization of the plurality of multiple value digital signals to generate a binary signal;

a jitter calculation section for calculating a jitter amount based on an error between a value of a prescribed multiple value digital signal sampled at a time which is substantially the same as a time when the value of the binary signal is changed and a prescribed threshold value;

a pattern detection section for detecting patterns of the binary signal before and after the time when the prescribed multiple value digital signal is sampled;

an amplitude detection section for detecting an amplitude of the prescribed multiple value digital signal based on at least one of a plurality of multiple value digital signals sampled before and after the time when the prescribed multiple value digital signal is sampled; and

a correction section for correcting the jitter amount based on the detected pattern and the detected amplitude.

5. A jitter detection apparatus according to claim 4, wherein the amplitude detection section detects an amplitude of a range of the input analog signal having a shortest pattern, based on at least one of the sampled plurality of multiple value digital signals.

6. A jitter detection apparatus according to claim 5, wherein the amplitude detection section further detects an amplitude of a range of the input analog signal having a pattern other than the shortest pattern.

7. A jitter detection apparatus according to claim 4, wherein the correction section corrects the jitter amount when the detected pattern includes a shortest pattern.

8. A jitter detection apparatus according to claim 7, wherein:

the input analog signal is modulated based on a run-length limited code having a shortest run-length of 2 clock cycles, and

the length of the shortest pattern is a length of 2 clock cycles.

9. A jitter detection apparatus, comprising:

an A/D conversion section for converting an input analog signal into a plurality of discrete multiple value digital signals;

a binarization section for performing binarization of the plurality of multiple value digital signals to generate a binary signal;

a pattern detection section for detecting patterns of the binary signal before and after a time when the value of the binary signal is changed; and

a jitter calculation section for calculating a jitter amount based on the detected pattern and an error between a prescribed threshold value and a value of a prescribed multiple value digital signal sampled at a time which is substantially the same as the time when the value of the binary signal is changed.

10. A jitter detection apparatus according to claim 9, wherein the jitter calculation section calculates the jitter amount based on a pattern which is longer among the pattern

of the binary signal before the time when the prescribed multiple value digital signal is sampled and the pattern of the binary signal after the time when the prescribed multiple value digital signal is sampled.

11. A jitter detection apparatus according to claim 9, wherein the input analog signal is modulated based on a run-length limited code having a shortest run-length of 2 clock cycles.

12. A jitter detection method, comprising the steps of:

converting an input analog signal into a plurality of discrete multiple value digital signals;

performing binarization of the plurality of multiple value digital signals to generate a binary signal;

calculating a jitter amount based on an error between a value of a prescribed multiple value digital signal sampled at a time which is substantially the same as a time when the value of the binary signal is changed and a prescribed threshold value;

detecting patterns of the binary signal before and after the time when the prescribed multiple value digital signal is sampled; and

correcting the jitter amount based on the detected pattern.

13. A jitter detection method, comprising the steps of:

converting an input analog signal into a plurality of discrete multiple value digital signals;

performing binarization of the plurality of multiple value digital signals to generate a binary signal;

calculating a jitter amount based on an error between a value of a prescribed multiple value digital signal sampled

at a time which is substantially the same as a time when the value of the binary signal is changed and a prescribed threshold value;

detecting patterns of the binary signal before and after the time when the prescribed multiple value digital signal is sampled;

detecting an amplitude of the prescribed multiple value digital signal based on at least one of a plurality of multiple value digital signals sampled before and after the time when the prescribed multiple value digital signal is sampled; and

correcting the jitter amount based on the detected pattern and the detected amplitude.

14. A jitter detection method, comprising the steps of:

converting an input analog signal into a plurality of discrete multiple value digital signals;

performing binarization of the plurality of multiple value digital signals to generate a binary signal;

detecting patterns of the binary signal before and after a time when the value of the binary signal is changed; and

calculating a jitter amount based on the detected pattern and an error between a prescribed threshold value and a value of a prescribed multiple value digital signal sampled at a time which is substantially the same as the time when the value of the binary signal is changed.